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The Cow and Human Disease,

Just now, when veterinary surgeons are striving to convince the legislature that in all matters in which animals are directly related to the health of man it is necessary to have investigations jointly made by veterinary and medical experts, anything new bearing upon the question is most acceptable. Naturally we turned with interest to a report in *The British Medical Journal* on "The Influence of Milk in Spreading Zymotic Disease"—with greater interest as the article was signed by Mr. Ernest Hart.

We have made an abstract from this report of the portions most important to veterinarians, and we venture to think no little surprise will be felt by the profession on finding so great an authority as Mr. Hart resuscitating the moribund theory that there are unrecognised diseases of cows capable of infecting milk in such a way that its consumption by human beings will result in producing well known specific disease.

The report says: "Assuredly by 1881 the public had come to recognise the relationship between milk and disease as clearly proven." No one will dispute this. All veterinary surgeons know that milk may carry the infection of certain specific diseases of man. Scarlatina and diphtheria have undoubtedly been spread by milk which has in some way become contaminated by the poison of those diseases. What we deny is that cows suffer from either of these diseases, and we assert that there is no disease of cows which can possibly contaminate milk so that it may give rise to any of the well recognised zymotic diseases of man. We are aware that a few years ago some investigations were carried out which satisfied the observers of the truth of their theory, but the matter did not rest there. Quite as careful investigations were made by other observers who, we believe, "demonstrated beyond doubt" that there is no causal relationship between diphtheria and scarlatina and any condition of milch cows. Mr. Hart says: "The controversy which raged round the circumstances attending the Hendon outbreak must still be fresh in the minds of those who followed the subject, the veterinary world being especially convinced that the theory held by the Medical Department of the Local Government Board was untenable. But events have proved, as in so many other instances, that the views put forward by the Public Health Department of the State were right, and that the only thing to do was to accept with what grace could be found the convincing arguments and solid data which went to uphold the theory as matter of fact."

The patronising assurance of this statement led us to anticipate the production of a mass of new facts and some fresh irresistible logical arguments. None are forthcoming. Instead we have a *rechauffé* of the old cases and a mention of some well-known conditions of milk which are supposed to cause disease. Eruptive disease of the udder and loss of hair on the quarters we know are suspect, but "Ropy Milk," and the "Milk of Newly Calved Cows" we fancied were too common to be credited with power to cause diphtheria or scarlatina.

It is right to have respect for authorities, and we acknowledge the weight of such names as Power and Klein, but these observers have no claim to infallibility. Since 1885 many competent observers, medical and veterinary, have been watchful to detect any conditions which would afford corroboration of the theories Power and Klein are responsible for. With very few exceptions practitioners have failed to find any facts pointing in that direction, and the inference may be accepted that the constantly increasing experience, directed as it is by greater knowledge, has discredited the conclusions too hastily accepted.

All the conditions noted as affecting cows are well-known and common. They exist in hundreds of cases where no disease follows the use of milk from the affected animals. Where they have been seen in connection with undoubtedly infective milk they have simply been coincident with, and not causally related to, disease in the human subject. Hardly a cow-shed in the kingdom can be inspected for six months without discovery of all the supposed infective conditions on some of the cows, and not one can be visited at any time without affording evidence of at least one of the harmless affections which are supposed to spread specific diseases amongst human beings. It is simply trifling with sanitary science for a medical officer, when he fails to trace direct infection of milk to human agency, to fall back upon some every day condition of a cow as the causal origin of specific disease. The last new cows in every shed are constantly losing their hair. Diarrhœa is not so uncommon that it may be accepted as a sign of zymotic disease. Eruptions on the teats, "garget" and "humour" are every-day occurrences. Few well ordered cow sheds avoid newly calved cows. Morbid conditions of milk, described as "ropy," "blue," "bloody," etc., are well known and usually not mixed with the general supply. These conditions may be unknown to medical men; they are very familiar to veterinarians, who through their own or other people's families are usually acquainted with the symptoms of diphtheria and scarlatina. If the conditions of the cow, relied upon by Mr. Hart as causing disease in man, were really the specific dangers he imagines the proper cource would be to prohibit the sale of milk from all sources so affected. The result of such a proceeding would be to close every large cow-shed in the Kingdom, for there are none in which a careful bacteriologist, ignorant of the larger animals, would not find specimens of the assumed dangerous conditions.

If Mr. Hart's article should have the effect of galvanising into life again the old theory of cow-originated infection of milk it will be an unfortunate thing for the medical profession. The best thing they can do is to accept with what grace they may, the convincing arguments and solid facts which have upset the theory formed by Dr. Power and supported by Dr. Klein.

THE USE OF TUBERCULIN.

Since we gave the result of replies to our circular three more answers have arrived, and as each is from a practitioner of considerable experience we have added them to the others. The total result is as follows:—

Ques.—Have you ever seen any ill effects produced by tuberculin in an animal not suffering from tuberculosis?

Ans.—100 answer "No." One says "sometimes slight disturbance for 48 hours."

Ques.—Have you ever seen a case of tuberculosis generalised or permanently injured by injection of tuberculin?

Ans.—98 answer "No." Three mention a case of injury *possibly* due to the agent.

Ques.—Have you found the reaction of tuberculin trustworthy as an aid to diagnosis?

Ans.—80 say "Yes"; One said "No."
12 said "Undecided."
5 say "Have had reactions without finding any disease on post-mortem examination."
3 say "Yes, except in cases of advanced disease."

NOTES ON A HÆMATOZOON "FILARIA SANGUINIS EQUI." ITS PATHOLOGICAL SIGNIFICANCE.

By Vet.-Lieut. H. J. Axe, A.V.D.

During an outbreak of fever of a remittent type, associated in a number of cases with liver complications, and in one case with hepatic abcess (as proved post-mortem), occurring among the horses of a native cavalry regiment during the hot season on the plains of India, I submitted the blood of each animal to a careful microscopic examination morning and evening, several slides being used with the view to the detection of any abnormality. In several cases it resulted in the discovery, besides a very large number of granular looking corpuscles, with here and there heaps of granular bodies, of what I consider to be the "Filaria Sanguinis Equi."

Curiously enough I found this nœmatoid hæmatozoon in several of the earlier cases of the fever, and it was particularly noticed in those animals that they were poor and ill-conditioned, and had the reputation in the regiment of being bad doers. At the outset I was under the impression that I had to deal with a febrile disorder akin to the "elephantoid fever" of man, more especially as the pyrexia was associated with extensive swelling of the legs, sheath, and eyelids, and in two or three cases with hœmaturia. Subsequent events, however, pointed to their presence being purely accidental, as in a very large number of cases of the fever, examination of the blood revealed negative evidence. In all I found this hæmatozoon in six country-bred animals in this outbreak. The parasite in question resembles in nearly all respects the "filaria sanguinis hominis," which is figured in Davidson's work on "Diseases of Warm Climates."

As seen with an ordinary Beck's microscope (the only one I have available, ¼ in objective, and No. 2 eye-piece) the parasite consists of a bluntly rounded cephalic portion and a gradual tapering caudal portion. The former being about the width of a red blood corpuscle at its widest part, and the latter drawn out to a very fine point at caudal extremity. In length it is about from 20 to 25 times as long as a red cell, although I have found one or two five or six times that size. Under a ¼ inch objective they look smooth and translucent, and a bright spot is sometimes seen at its widest end suggesting an oral apparatus. The appearance presented by the hæmatozoon when first seen will not be readily forgotten—the remark made by a well known cavalry colonel that it was "like a perfectly developed snake," aptly describes the object thus witnessed. For 12 hours after its removal the filaria is in constant motion, coiling and uncoiling itself, lashing out here and there in all directions. It does not appear to rest for a single moment, yet it seems to make little progress, as I have frequently seen it in the same field for about 10 or 15 minutes without altering the stage.

With regard to the morbid phenomena indicating the presence of these parasites in the muscular system of the horse, I have at present very incomplete knowledge, but the following facts are submitted as being likely to draw special attention to those animals which harbour this hæmatozoon.

So far as my observations have gone, most of them have been animals chronically ill-conditioned, suffering from what may be termed "tropical anæmia" or "asthenia," a noticeable wasting of the muscles along the back and loins, very little covering over the ribs—in fact a state of general poorness. The appetite in the meanwhile is invariably good. During the past two years I have seen as many as 15 cases amongst Battery horses, and it would not surprise me should it eventually be demonstrated that a very large number of these so-called "Anæmia" cases, so often found in our sick reports of battery and troop horses in this country, are due to the presence of this microscopic nœmatode in the blood.

Again, that the constantly recurring cases of "hæmatinuria" of short duration (36 hours) met with out here are due, directly or indirectly, to the presence of this Hæmatozoon in the blood is quite likely seeing that I have since encountered it in several cases of Australian horses in which this parasite exists. This condition is not the "paroxysmal hæmatinuria met with at home, but a recurrent "hæmatinuria" frequently associated with icteric membranes and liver symptoms.

At present I have never been able to discover any

cases of "chyluria" which appears to be one of the chief symptoms of the existence of this "Filaria" in man, nor have I found this parasite in the urine as the detection of these in the latter media appear to be a matter of considerable difficulty, and I understand from my medical friends here that hours may be spent in examining the sediment of a good sample of chylous urine before they are found, as they vary in number and may be absent from time to time from either the urine or the blood. Lastly, whether or not that vulnerable condition of skin which is attended with such marked irritability in the tropics known as "pruriginous eczema," prurigo, or mane and tail disease, associated with chronic urticaria, etc., may be due to the existence of the hæmatozoon in the blood remains to be proved. We do know, however, that the analogue in man gives rise to various obscure disorders such as "elephantoid fever," "elephantiasis arateum," "hæmaturia," "chyluria," and "tropical anæmia," and a host of other obscure conditions. Under these circumstances it is not too much to expect that somewhat similar and obscure disorders may yet be encountered in the horse.

ABSTRACTS FROM FOREIGN JOURNALS.

Tuberculosis from Contagion in the Goat.

This disease is perhaps not so rare in the goat as we have been taught to believe. G. Moussu has brought three cases before the notice of the Central Society of Veterinary Medicine, Paris. The first case occurred in a female kid which was kept in infected surroundings. The two other cases were experimental animals. The first of these was a ten months' old billy-goat, bred and reared under similar conditions to those of the above, and the second was a six-year-old goat, confined and kept in a place where there was a direct atmospherical communication with an infected region.

At the autopsy of the young he-goat Moussu noted slight ascites co-incident with tuberculisation of the mesenteric glands, liver, and substance of the right kidney. All these lesions were undergoing caseation. The lungs were totally invaded, and the middle and posterior lobes contained four large cavities of the dimensions of a hen's egg.

The six-year-old goat succumbed to an attack of acute tubercular peritonitis. On post-mortem examination, the whole of the parietal peritoneum, epiploon, mesentery, broad ligaments, etc., were found to be the seat of acute generalized tuberculosis. The liver only presented two or three caseous nodules. The aorta and pulmonary artery offered absolutely remarkable lesions, viz., atheromatous degeneration, almost affecting the whole of them—the aorta from its base to its quadrification, and the pulmonary artery as far as the depth of the lung. No tubercle bacilli were detected in the atheromatous lesion. Cadiot has found this atheromatous condition in tubercular horses and dogs, but he, like Moussu, has not found Koch's bacillus in this lesion—a lesion frequently found in non-tubercular aged horses.—*Rec. Méd. Vét.*, February 28th, 1897.

Broncho-Pneumonic Affections of the Horse.

Cadiot recognises four principal types, excluding strangles.

1.—*Contagious Pneumonia*, generally brought into a stable by a newly purchased horse which has been contaminated at the dealers, or by a subject that has been standing some time at livery in an infected place.

2.—*The Pneumo-Enterites.*—Grave forms of typhoid maladies, much more diversified than contagious pneumonia in their manifestations and their localizations, and very often brought about by the dust of damaged forage.

3.—*Influenza*—benign form of typhoid maladies—which is very contagious and rapidly spreads in every direction, and of which the epidemics are generally separated by intervals of a certain number of years.

4.—*Contagious Laryngo-Bronchitis*—or infectious catarrh of the air passages—which is observed in some stables nearly every winter, and is rapidly propagated. It is only exceptionally accompanied with pulmonary hepatization or other visceral lesions, and only causes a very small mortality. Cadiot has frequently observed acute myocarditis and intermittency of the heart during the course of pulmonary inflammation. He is a believer in digitalis.—*Rec. Méd. Vét.*, February 28th, 1897.

Treatment of Purpura Hœmorrhagica by means of Artificial Serum.

M. Menveux, veterinary surgeon, Paris, discouraged by the results obtained by the old organised methods of treating this complaint, had recourse to the following artificial serum containing caffein:—

Sodium chloride	...	5 grammes.
,, phosphate	...	1 ,,
,, sulphate	...	0·20 centig.
,, carbonate	...	1 gramme.
Caffein hydrochlorate	...	10 ,,
Filtered boiled water	...	1000 ,,

After boiling the water for three quarters of an hour, filtering it through aseptic cotton, and then dissolving in it the sodium salts and caffein, it is again filtered and sterilized in a closed jar placed in a water-bath for half to three quarters of an hour.

This serum, if protected from the air, will keep indefinitely, but should the caffein become precipitated, as it sometimes does during cold weather, it must be re-heated.

The dose is 135 grammes for a medium sized horse, 250 grammes for a cart horse, and 90 for a cab horse, injected under the skin morning, noon, and night. These injections should be carried out under ordinary aseptic principles.

Of 18 cases so treated 14 recovered. The mean duration of this treatment was from 26 to 27 days. M. H. Benjamin treated two cases with this serum, and both recovered.

Under the older methods of treatment 44 cases treated by M. Menveux only 19 recovered.—*Rec. de Méd. Vet.*, 30 Avril, 1897.

Contagion of Cracked Heels.

M. Joly had occasion to observe at the Saumer Cavalry School a small outbreak of generalized dermatitis of the extremities of the limbs so common in winter, especially in well-bred horses, and known under the name of mud-fever. To verify the contagiousness of this affection he made several inoculations on the neck, and obtained vesicular and crustaceous eruptions which he was able to reproduce in series upon the pasterns of several horses, where he caused cracks clinically resembling those of spontaneous origin.

These experiments explain the reason why excellent effects are obtained by using an occlusive dressing of sublimated cotton wool, covering the parts from the heels of the shoes to above the fetlocks. By the use of this application alone cure of the cracks was obtained in eight days, even when the cracks were extensive and gave rise to an abundant discharge.—*Revue Vétérinaire*, May, 1897.

Torsion of the Uterus of the Cat.

M. Mathis, of the Lyons Veterinary School records two cases.

1. A cat aged eight years was brought to him in an exhausted and dying condition. It had been noticed to have been restless, and made some expulsive efforts a few days before it was found on a Sunday morning to be very weak and scarcely able to stand, immobile, appetite and thirst absent. On palpation of the abdomen a fœtus was discovered; digital exploration of the vagina indicated that this organ was dry, without any trace of fœtal liquid, membranes, or fœtus; no odour, as in cases where the parturition has not taken place and already complicated with commencing decomposition. On autopsy it was found that the *left cornua of the uterus was completely twisted upon itself*.

2. Black cat, aged two years, had been the victim of acute pain. The abdomen was so distended that the fœtus could not be felt. The vulva was moist, without being the seat of abnormal secretions. Exploration of the vagina by means of finger well vaselined did not discover any longitudinal or transverse folds, but it seemed slightly tense. Four days after death supervened.

On opening the abdominal cavity a quantity of hœmorrhagic fluid escaped. The uterus appeared enormous, and it was the seat of rupture. The left cornua was ruptured in two places, one towards its middle and the other near its base. The right cornua had taken a half twist upon itself.—*Journ. de Méd. de Vétérinaire et Zootechnie*, April, 1897.

The translator destroyed a white Persian cat which had gone 14 days over its normal period of utero-gestation, and for 10 days had not eaten anything but what was forced upon it. The abdomen was distended and the animal seemed in pain, especially when manipulated. Towards the last the animal vomited from time to time, seemed drowsy and indifferent to its surroundings, but whined when roused from its lethargic state. There was also convulsive movements of the limbs. Four days before it was dispatched the animal was seen, and an operation was advised but was refused on the part of the owner.

On autopsy a large blackish-red tumour was found in the left iliac region, which was the left cornua of the uterus containing fœtuses. *It was twisted three times upon itself at the cervix towards the right.* Of course the utero-ovarian ligament was also the seat of the torsion, and consequently it dragged the left kidney nearer towards the pelvis. Very little blood-stained serum was found in the abdominal cavity. The uterine veins were thrombosed, and the cornua had on the whole the appearance of "strangulated intestine" as seen in the horse. The right cornua also contained fœtuses.

In another case in a Persian cat, where she had given birth to several kittens three days before she was brought to the translator, he found on extra-abdominal manipulation another kitten in the womb, and as the fœtus could not be reached per vaginam, in consequence of occlusion of the cervix, recourse was had to laparotomy, and the womb was excised to prevent septic infection. Death supervened next day from mercurial poisoning. Exact details of the "twist" cannot be given at present as the notes of the case have been mislaid.

VETERINARY SOCIETIES.

THE CENTRAL VETERINARY MEDICAL SOCIETY.

An ordinary general meeting was held on Thursday night, the 6th inst., at the Royal College of Veterinary Surgeons, Red Lion Square, Bloomsbury, under the presidency of Vet.-Col. J. Kettle, A.V.D. The other fellows present were: N. Almond, J. K. Bruce, J. Baxter, A. L. Butters, T. Burrell, W. H. Clapp, M. Clark, Hugh A. McCormack, T. G. Chesterman, H. Edgar, A. E. Gostling, J. S. Hurndall, W. Hunting, Professor F. Hobday, H. King, F. C. Mahon (hon. sec.), Prof. J. Macqueen, Veterinary-Major A. Nunn, Professor J. Penberthy, R. Porch, W. Reekie, H. G. Rogers, W. Roots, G. Reddish, L. Savournin, H. Singleton, W. E. Taylor, F. O. L. Walpole, W. Willett, and as visitors Messrs. Morgan Evans, Hulseburg, W. A. Dellagana, and John Pugh, etc.

On the motion of Mr. H. G. Rogers, seconded by Mr. J. S. Hurndall, the minutes of the preceding meeting were taken as read and were confirmed.

The Hon. Sec. (Mr. F. C. Mahon) announced the receipt of a telegram from Mr. A. Wheatley, of Reading, expressing regret at his inability to attend.

A Benevolent Fund for the Profession.

The Chairman: Under the head of "any other business" I wish to call your attention to a motion that has been proposed by Professor Penberthy, and seconded by Professor Macqueen. It was adopted by the Council at the meeting which they held to-night prior to this meeting. The resolution, which will now be brought forward for your consideration, runs:—"That this Council suggests that the Central Veterinary Medical Society elect a committee to confer with other associations and veterinary surgeons, members of the Royal College of Veterinary Surgeons, with a view of forming a benevolent fund for the benefit of necessitous or indigent veterinary surgeons, or necessitous members of the families of veterinary surgeons.

Mr. T. S. Price: I presume it is not proposed to

utilise the funds of this Society for benevolent purposes. It will be a special subscription I suppose?

The CHAIRMAN: That, I think, is a matter for you to discuss. You have the proposition before you exactly as the Council drafted it.

Mr. PRICE: It seems to me to be a very important proposition and one which should be placed on our agenda for our next meeting so that all our members may know what is proposed and have an opportunity of discussing the motion. I think that is the best thing to do. In fact I will propose that the motion be printed on the agenda for discussion at our next meeting.

Mr. ROGERS: I have much pleasure in seconding that. It is, I think, a rather important matter to come up under the heading of "any other business."

Mr. H. EDGAR pointed out that the resolution of the Council only proposed the formation of a committee to take necessary initial steps. He did not think discussion was necessary to enable them to decide upon the appointment of a committee. If the matter was placed upon the agenda that would involve a month's delay, and it was desirable to formulate a scheme as early as possible if that Society was to take the initiative in this matter. He wished to know whether the fund suggested was likely to clash with the Manchester Society, or whether it was proposed to make it a distinct and different concern.

Mr. PRICE: All these things can be discussed if we adjourn the subject until our next meeting.

Professor PENBERTHY: Perhaps you will allow me as the proposer of the resolution, to say a few words. At our last meeting the idea was mooted that we should do something to celebrate the Diamond Jubilee of the Queen, and in Council to-night it was thought fitting that the Central Veterinary Medical Society should take the initiative and not allow itself by delay to be put in the place of second fiddle. There is no other reason why a committee should be appointed to-night than that we think it desirable it should be seen throughout the profession that the Central Association is in its proper position in the initiation of a good work. The only idea was that a committee should be formed which should not be committed to anything beyond a conference with other associations and veterinary surgeons with a view of establishing a benevolent fund.

Professor MACQUEEN said his idea in connection with Mr. Price's question was that they should first appoint a committee, and when that committee met they could then discuss the wisdom or unwisdom of starting a new benevolent fund. The committee could then report to the Society who might proceed to discuss the matter fully. With regard to the question as to whether their proposed new organisation would be likely to clash with the Manchester Society, that was a subject which was before the Council that evening, and it was maintained, and he thought rightly, that what was called the Manchester Society was not a benevolent society at all, but simply a provident society, the benefits of which were restricted to subscribers. What was now proposed was the formation of a benevolent fund for the benefit of the profession at large, a fund not confined to members of societies, but embracing all members of the profession. His view was that a committee should be chosen at once.

Mr. W. HUNTING was in favour of immediate action being taken. His belief was that no member of the profession could possibly object to the initiation of the contemplated benevolent fund. There were, he said, many advantages that would be derived from it. As a loyal subject, too, he thought the suggestion was a very good suggestion, because one could not imagine anything that would be more in accordance with the wishes of Queen Victoria than something in the way of a benevolent fund for widows and orphans. No good would come of delay. Let them start and they would get others to join them.

Mr. HURNDALL said it had occurred to him at first that their proposal might clash with the Manchester Society. He had every reason to believe that that Society would not be very likely to entertain any proposals for amalgamation. He was pleased to hear from Professor Macqueen that the new fund would be established on a broader basis than the Manchester Society. He fully realised the desirability of having a benevolent fund independent of Manchester, and his belief was that such fund might be formed without prejudice to the Manchester Society. The committee should be forthwith appointed as by delay they might find their benevolent intentions anticipated.

Mr. PRICE, in deference to the feeling of the meeting, then withdrew his motion.

The CHAIRMAN: May I ask Professor Penberthy to state a case to you which he brought before the Council and which influenced their decision considerably.

Professor PENBERTHY said he had the greatest sympathy with the objects of the Manchester Society but that society was really a provident institution, whose benefits were restricted to those who had subscribed a certain amount to its funds. They—and they only—were entitled on account of those subscriptions to some help in time of need. In an urgent case, that of the necessitous widow of a veterinary surgeon, he wrote to Mr. Locke, the secretary of the National Benevolent Association, with a view of procuring her assistance. He received a reply expressing Mr. Locke's regret that the lady could not be helped by his society because of its rules, and adding that they hoped the society would soon be placed on a broader basis. Well, he (Professor Penberthy) thought they should make a beginning in the direction of constituting a General Benevolent Fund for their profession. He moved the resolution which the chairman had read.

The CHAIRMAN: I think you stated at the Council meeting that your application to the Manchester Society was made since the last meeting of the Central Veterinary Medical Society.

Professor PENBERTHY: Yes, since our last meeting.

The resolution was adopted *nem. con*, and the following gentlemen were, after some discussion, constituted the committee: Vet.-Col. Kettle (President of the Society); Mr. W. Hunting, Mr. W. F. Barrett and Professors W. Pritchard and J. Penberthy, Vice-Presidents; Messrs. M. Clark, J. A. W. Dollar, T. C. Garry, Professors F. Hobday, J. McFadyean and J. Macqueen, Messrs. A. Prudames, H. G. Rogers, W. Roots, H. Singleton, S. Villar, and W. J. Mulvey, Members of Council; Mr. J. Rowe, Hon. Treasurer; Mr. F. C. Mahon, Hon. Secretary; and Messrs. T. G. Chesterman, T. S. Price, T. Burrell, N. Almond, J. S. Hurndall, H Edgar, W. Reekie, F. W. Wragg, A. Wheatley, A. L. Butters, F. O. L. Walpole, H. W. Caton, and Major J. A. Nunn

"CAPPED ELBOW" IN THE HORSE.

By A. L. BUTTERS, M.R.C.V.S.

The paper was read by the Hon. Secretary, at the author's request, as Mr. Butters (who was present) was somewhat indisposed:—

Mr. President and Gentlemen,—The subject of capped elbows in horses, which I have the privilege of introducing to your notice this evening, is comparatively an unimportant subject inasmuch as these enlargements rarely—I may say never—cause the death of the animal; they rarely produce lameness, and consequently do not prevent the horse being worked, and they are looked upon—correctly so, I think—as disfigurements rather

than serious diseases, so that generally it is only when they have become so large or unsightly as to attract the unwelcome attention of, perhaps, a policeman, that we are called upon to treat them.

I have seen it stated that carthorses are more subject to capped elbows than better bred animals. This may be so; but in my experience no class is exempt from them.

Causes.

Some horse owners and others consider that a shoe which projects a little beyond the bulb of the heel is the sole cause of these enlargements, and that a shoe which does not project is a sure and certain preventive of them. Clients who adopt this view are difficult to deal with, more especially when one of their horses which has been shod at one's forge turns up one morning with a lump on its elbow. In such cases it may be pointed out that all horses which are shod "long" do not cap their elbows, although they lie down constantly and regularly. There must therefore be some exceptional circumstances which lead to the bruising of the elbow. What these circumstances are I hope the discussion this evening will give us a more correct idea. Of course it is admitted on all hands that the actual cause of the mischief is pressure by the heel or the shoe, and that pressure may have been of long or short duration, repeated at intervals, or so brief as to partake of the character of a blow. To ascertain precisely the reasons for this undue pressure each case must be studied as it occurs. I will here state briefly what I have found to be the most common of these.

Where the stable floor is slippery capped elbows are frequent. The reason for this I consider is that when the animals are in the act of lying down their feet slip and they fall, and thus the point of the elbow gets a severe bruise by the heel of the shoe. The same thing happens in horses that are stiff or slightly lame in one or both of their hind limbs. When they are partly down they appear to lose all control of their actions, and fall heavily to the ground; now should the heel of the shoe be opposite the point of the elbow, we cannot be surprised if we find a swollen elbow in the morning.

A narrow stall, or a short head collar rein, by causing the horse to lie persistently on his sternum must also be looked upon as factors in the production of these enlargements. Even in a loose box, which is in many cases a good preventive, if the bedding is scanty and the animal is almost constantly lying down, we get not only abrasions but capped elbows.

There are, no doubt, other causes, but in my experience the above are the most common.

For a short account of the anatomy and pathological anatomy of these, I cannot do better than quote from Mr. Dollar's translation of Möller's Veterinary Surgery. "The structure corresponding to the bursa olecrani of man is found in the horse and dog at the posterior surface of the elbow-joint, and though not constant, generally forms below the skin a bursa mucosa as large as a walnut or apple (Eichbaum) Inflammation, generally caused by the heels of the shoe, produces a swelling, vulgarly termed "capped elbow."

Pathological anatomy. Bruising leads to acute inflammation of the bursa; sometimes bleeding takes place into the bursal cavity, sometimes bursitis sero-fibrinosa *vel* hæmorrhagica occurs. If pus cocci enters, bursitis suppurative may result. In any case, however, the connective tissue around the joint also suffers (parabursitis), though in the horse this condition is not marked. At first œdematous swelling of the connective tissue sets in, but later gives place to plastic infiltration, and finally to extensive formation of fresh connective tissue, which may even become ossified.

The disease, therefore, consists of a bursitis and parabursitis olecrani. The swelling is chiefly caused by the latter."

Treatment.

As capped elbows do not run a regular fixed course, and frequently assume a chronic form, treatment will be considered according to the stage or variety with which we have to deal. When the case is recent, as for instance, when a horse that is left all right at night and in the morning is found to have a swelling at the back of the elbow, the centre of which may fluctuate but the surrounding parts pit on pressure, fastening the horse's head to the rack so that he cannot lie down, hot or cold fomentations, a dose of physic, soft diet and quiet exercise for a few days will generally disperse the enlargement. I do not recommend opening the swelling with a lance, even although it may fluctuate very readily and appear almost ready to burst. If this is done a troublesome wound is made which is slow to heal and has a great tendency to fill up with warty granulations. Of course cases occur where pus is formed, then great relief is afforded by lancing; but these cases are rare, and are always associated with great pain and swelling of the surrounding tissues.

A very common condition of capped elbow which we are called upon to treat is one which has existed for some time but has suddenly become larger and burst, a small opening is found generally about the centre of the swelling discharging a thin sticky brownish fluid, manipulation shows that it is composed of some hard substance which moves freely under the skin. In these cases I have found a seton, passed through so as to make a depending orifice, prove of great benefit. The seton may be left in for two or three weeks, and cleaned and dressed daily with some mild digestive. This treatment may not take the enlargement quite away, but it will reduce it, and answers very well where the animal can be worked. When the discharge is found to have diminished or altered in character the seton may be withdrawn.

Where the swelling is firm the only treatment recommended is to remove it; this may be done with the knife or ecraseur. I do not consider this a serious or difficult operation, although it is generally necessary to cast the animal. I have removed small enlargements when the horse was standing, by first painting it over with solution of cocaine. The best method of operating is to make a crucial incision through the skin, and dissect it out. A piece of cord passed through the swelling is of great assistance by steadying and enabling the operator to get well round it. It is rare that any blood vessels of importance are met with during the operation, and the hæmorrhage is easily arrested by a pledget of tow being stitched with the flaps of skin which are left. The after treatment should be the same as that adopted for wound generally; sometimes there appears to have been too much skin left, but in a little time it will be found to have contracted to the normal size. To prevent any risk of the animal bruising the part I usually put him in slings and keep him in them as long as possible. Of course he should be exercised every day, and when the wound is healed he may be worked, but remain in the slings at night. By this treatment I have removed large tumours from the elbow and after a few months the only sign of the operation was a white seam marking the point of the incision.

Occasionally, as a sequel to our treatment, a loose flap of skin is left which is almost as unsightly as the original swelling. For this I have found the application of the following liniment of great service, viz.: carbolic acid, ol. lini, ol. tereb. in equal parts A little of this rubbed on the loose skin daily for a few days will produce a thick hard scale. This should be allowed to remain until it begins to get loose, when its complete removal may be hastened by a little oil. The loose flap of skin will be found, if not entirely removed, to have diminished considerably. It may be repeated without fear of blemish, as when cautiously used it does not fetch off the hair and leave a temporary bald place, as an

ordinary blister. I have also found this liniment very useful in the treatment of capped hocks, where there is only a loose flap of skin left. I should mention that the parts should be quite cool and free from inflammation before it is applied and it should be applied sparingly, so as not to run down the limb.

One of the greatest difficulties which we have to contend with in the treatment of capped elbows is to prevent fresh bruising of the parts. To obviate this several preventive measures are adopted. Pads on the heel of the shoe and in the pastern are generally used with varying amounts of success. My objection to them is that they put the pressure on the part which is already inflamed and affected, I therefore some years ago had a boot made which is to fasten on the fetlock and I have found it answer remarkably well. The advantage of this is that it does not allow the pressure to come on the enlargement at all, but puts it on a part of the arm which can apparently bear it without any injury.

I have seen advertised the "Offord" capped elbow pad which from the illustrations fits on the animal in a very different manner to any of the foregoing. I have had no experience with it; perhaps some of the fellows present may have tried it, and will give us the benefit of their experience.

I have only to thank you gentlemen for the attentive hearing you have given me.

Discussion.

Vet.-Capt. Nunn spoke of the camel and the elephant as suffering very much from capped elbow. Both were used alike for riding and for pack purposes, bearing loads. The elephant laid down with his feet in front of him and rested on the elbow, and in this position on hard ground, without any protection being afforded the animal, he had known some tremendous tumours result. The pain caused by capped elbow prevented the elephant lying down if used for pack purposes, and if he were used for riding purposes it was sometimes an acrobatic feat to mount him. Camels were much more amenable to treatment than elephants. He treated them, in the removal of the tumour, exactly in the same way as he operated upon a horse. Elephants, he confessed, had beaten him altogether. He had operated upon them and in two cases he did fairly well. He had seen capped elbow in polo ponies which had been accidentally inflicted with polo sticks in the course of the game. Mr. Butters recommended a crucial incision. He (Captain Nunn) preferred the longitudinal incision. He adopted antiseptic precautions and never touched a wound that was not absolutely sterilised. He had operated in a case of capped elbow in a horse that belonged to an officer at St. John's Wood, and the animal was at work within a fortnight, and was at work now, with scarcely any sign of its injury.

Mr. Hunting said it was unnecessary to say anything about Mr Butters' paper in a flattering tone because it was well known to that society that his papers were of a thoroughly practical nature. (Hear, hear.) Mr. Butters spoke of the cause of capped elbow. He said its origin was certainly not always the shoe, and Capt. Nunn's experience confirmed this, for he (Mr. Hunting) did not think that either of the animals the Captain named injured their elbows, at any rate, by long shoes. It was a remarkable thing that for many years apparently it was the impression of veterinary surgeons that these capped elbows were nearly always produced by very long shoes. He observed some years ago the horses of the London Tramway Company as they passed a given point, and found that four out of every five had capped elbows. Professor McGill, who looked after those horses at that time, was certainly as well up in horse shoeing as any other man in the profession, and he denied that shoeing had anything to do with capped elbows. He did not give any reason but a friend of his—an economical horse feeder—did. One part of the economy of horse feeding was to stint a horse of food and especially to give them scanty bedding. The animal scraped what little bedding he had behind him and laid upon the stones. Mr. Hunting was inclined to think that Mr. Butters' capped elbow occurred from a bruise. They did not see capped elbow until it had increased in size. It was a very small injury at first, then developed into a big lump, and after that no doubt the shoe did harm. Mr. Butters was of opinion that the bruise was caused when the animal was in the act of lying down. He (Mr. Hunting) thought the injury was done when the horse was in the act of rising. When getting up the animal had his feet projected in front of him, his knees a little way off the ground and then he slipped, his elbow coming down with a bang upon the stones. He agreed with Mr. Butters that it was a bad practice to lance one of those tumours unless it contained pus. Lancing a tumour of this kind simply meant having pus in it afterwards, and it took a very long time to do any good. Capped elbow that had burst or which somebody else had lanced was about the worst capped elbow with which they could have to deal. It could not be removed, and they had to wait until it healed. Mr. Butters suggested putting a seton through, but that in his (Mr. Hunting's) experience meant a very long time. As to excisions, his experience had not been so good as it ought to have been, and he felt disgusted with himself after hearing of the success of Captain Nunn's operation which admitted of the horse being all right and at work within a fortnight. He was now led to form a more favourable opinion of antiseptic treatment than he held previously. Mr. Hunting said that he always made a longitudinal incision and he failed to understand why Mr. Butters adopted the crucial incision. With respect to the use of pads as a preventive of injury, Mr. Butters failed to mention a very simple method of preventing a horse lying on the side of an injured elbow and that was tying him up with two halter shanks—one long and one short—so that he could not lie down on one side. Offord's pad did its work remarkably well. It was more easily kept in place than the fetlock pad, and it did its work most effectually but, of course, it required time.

Mr. Rogers, speaking from his own experience merely, and disclaiming any pecuniary interest in the article, commended Offord's elbow pad. He had found it answer remarkably well.

Mr. Clark said he would tell them of a rather simple remedy which might not have occurred to some of them. He had had some little difficulty with capped elbow, in the case of one horse especially. He had twice removed the tumour and it had reformed. He suggested to the coachman that he should sew a big piece of rug from the end of the horse's quarter sheet down to his fetlock, about 18 inches long and about 18 inches wide. As the horse lay down he folded this protection between his knees, and this had prevented a recurrence of capped elbow. Another treatment Mr. Clarke had found very efficient. It was the use of a preparation of bi-chromate of potash. He had employed it in a very weak solution for years, and found great good result from it.

Mr. J. K. Bruce held that the shoe was very seldom the cause of capped elbow, and that the great cause was want of bedding.

Mr. H. Edgar said that his experience taught him that capped elbow was due to the shoe, and he had particularly noticed that it occurred in those horses where the length from the knee to the heel was exactly the same as the length from the knee to the point of the elbow. When the end of the shoe was constantly resting upon the elbow bruising ensued. He found that when the horse recovered, and his shoe had been shortened and kept shortened, there was no recurrence of enlargement or thickening. They must remember there was a great difference in the way in which horses laid down. When they laid with their whole weight practically upon the elbow, capped elbow was most likely to

follow. In two instances of capped elbow in which he had lately operated, he was sure the cause was not want of bedding. The animals had splendid beds. Passing to treatment, he invariably opened the abscess and let out the fluid whether it was pus or serum. He had experienced no difficulty in point of recovery. He had always had very good success in the healing, and had not had a case of recurrence for several years. He certainly never made a crucial incision. The pads he used he obtained from Messrs. Arnold. They were rubber pads, and buckled round the hoof. They were made of nice soft rubber and they answered remarkably well. He forgot the name of the maker. It behoved them to remember that there were two distinct kinds of capped elbow. Of the tumours which formed some were acute and formed very quickly, whilst others formed slowly. The latter began with a little thickening and continued until a fibrous tumour was formed. There was never any quantity of fluid in those elbows. Their removal was necessary. In acute cases he had certainly had great benefit from rubbing with biniodide of mercury. In operating he made four injections of cocaine round the tumour and then opened and removed them.

Mr. REEKIE considered that capped elbow was greatly due to the shoe. As to treatment he claimed that great benefit was derived from the use of Offord's pad. It was not a preventive so much as a corrective. He had also used the India-rubber pad mentioned by Mr. Edgar. There was also the old fashioned treatment of the round roll which someone named the sausage roll. With this, however, they had the buckle to trouble them. Recently he procured a roll made of thick felt, like the round roll but in which the buckle was buried —was embedded—in the felt. This he found very effective.

Professor MACQUEEN while agreeing with preceding speakers that capped elbow was sometimes caused by the shoe, also agreed with those who maintained that the injury was often caused in some other way. His belief was that capped elbow was frequently due to insufficient bedding, and the peculiar attitude assumed by the horse before rising. Mr. McGill had been mentioned, and he (Prof. Macqueen) very well remembered that Mr. McGill —long before he came to London—held the opinion that capped elbow was caused when the horse was rising. But the elbow and foot position was not the only way in which the bruise was sustained. Some horses addicted to rolling bruised their elbows when given greater room. Horses accustomed to stalls when moved to boxes, horses moved from town into the country and given more accommodation sometimes contracted capped elbow. His idea was that the shoe had been unduly blamed for causing the bruise. Horses without shoes turned out to grass sometimes returned with large capped elbows. He believed that the horse when rising, or when rolling, bruised his elbows. Occasionally the bruise was caused by the toe of the hind foot. In summer when flies are troublesome sensitive horses might be observed to strike the point of the elbow with the heel. The condition of capped elbow varied as everyone knew. When soft and fluctuating the swelling was really a serous abscess, and the result of injury to the mucous bursa beneath the skin of the elbow. An operation was not always necessary, but the case should be seen and treatment commenced immediately after the injury was inflicted. Hot fomentations constantly and perseveringly applied frequently effected marked improvement. The solid form of capped elbow, the result of productive inflammation of the subcutaneous tissues, and the chronic or discharging form required different treatment. He was surprised that no one had referred to the fungus which was accepted as the cause of persistence of the growth. Alluding to pads, Professor Macqueen asked if no member of the profession could suggest something better as a preventive than Offord's pad. ("It has never been mentioned as a preventive.") He understood that one or two mentioned Offord's pad as a preventive as well as a curative. He endorsed the excellence, as a preventive of capped elbow, of the device mentioned by Mr. Clark. For many years he had recommended that a piece of felt should be attached to the horse's rug to protect the elbows. Sufficient bedding was a good preventive in many cases but in large companies where a dividend was the main consideration they would seldom find too much bedding. With regard to the claim set up for Offord's pad that it was curative, he asked if anyone present would maintain that the pad would cure solid capped elbow. His belief was that the only way by which they could successfully treat the solid form was by excision. Although with this he had not achieved the success of Major Nunn, he must say that the excision of capped elbow in his hands had been fairly satisfactory. He held that excision was the best treatment for the veterinary surgeon to recommend and practise. He did not make a crucial incision, and he could not understand what should induce Mr. Butters to do so. He made a longitudinal incision and dissected out as far as possible every bit of adventitious growth. He brought the edges of the wound together and placed the horse in slings He did not use antiseptics very much, but plain cold water. He believed in the continuous irrigation of the wound. He used sutures simply to keep out dust and continued the irrigation until the wound was healed. He should have said something about removing loose skin. He removed a piece of skin occasionally, and when the growth was very large, but great care had to be exercised so as not to remove too much. When too much skin was excised the cicatrix might be torn open when the horse lay down. In conclusion he warmly commended Mr. Butters for his excellent paper.

Mr. MANTON thought that if they inserted a drainage tube right through, and then injected tincture of iron three or four days until the suppuration was stopped, they would generally find the tumour disappear. With regard to solid tumour requiring removal his experience was that when cocaine was injected the horse kept perfectly still and enabled a veterinary surgeon to operate successfully. His belief was that a good deal of the success of after treatment depended upon operating entirely under antiseptic conditions. After he cut a tumour he sutured the wound very closely. To every four stitches he put in one very deep. He sutured with very fine cat-gut and silk about one-eighth of an inch. At the same time he inserted a piece of drainage tube which he attached to the first suture and allowed it to run to the bottom. After the horse rose he put it in slings and then the chief thing was to fix the knee joint.

Mr. BUTTERS, in replying, said he had purposely confined his paper to what he had noticed most about capped elbow in the horse. He quite admitted that there was more than one cause of capped elbow. Sometimes it arose, as had been pointed out, through the heel of the shoe, and especially, as Mr. Edgar said, the inner heel. He often came across horses which had capped their elbows through no apparent cause, horses that had good bedding and whose shoes were not too long. Yet he found capped elbow—and persistent capped elbow. He generally found a little stiffness under the fetlock joint, bone spavin or something which did not interfere with working. He thought lying down was the cause of capped elbow in those cases. He had not entered in his paper into the varieties of capped elbow. He had intended to do so but he had been so busy for some time back that he had not been able to complete his paper as he should have liked. He quite agreed that there were several varieties, and he thought in mentioning the treatment he had referred to the most frequent—those that came most commonly under their notice. It was quite possible that science might detect fungus in these tumours. As to treatment, he had learnt something from the discussion. He produced a

pad which he said he had found in practice to answer well. The pad was made to fix on the back of the fore leg next the fetlock joint, and when they bent the horse's leg up they found the pad came immediately below where the capped elbow was, and prevented any pressure upon it. In some cases in which he had used this pad the capped elbow, which was small, had entirely disappeared. (Mr. Hunting: Who is the inventor). Mr. Butters said he had made the pad for which, however, he did not claim any great originality. With regard to opening these tumours where they fluctuated, he owned that he had not had any very great success after they were opened. Sometimes they were opened and seemed to go on very well; but speaking generally he did not think it was good practice to open capped elbow when it was in a soft, fluctuating stage. He had generally found that with fomentation and the prevention of pressure the tumour disappeared. Of course if the tumour remained he would open it and either put a seton through or drainage tube. He thought that answered better than making a large open wound. At all events it seemed the most successful treatment. As to the most common form of capped elbow where one or two parts were kept open discharging fluid, in an animal, the owner of which wanted to work it, he had found a loop seton passed through had the effect of reducing the capped elbow half its size. That, of course, was palliative more than curative. With regard to the dissection of hard firm tumours, several gentlemen had taken exception to the line of treatment he had generally adopted, namely, the making of a crucial incision. He had never found any difficulty in healing up the wound afterwards. In making a crucial incision he got underneath much quicker, and he was able to perform the operation more effectively. At the same time he opined that some tumours could only be dissected out by one longitudinal incision. His experience was that in making a cross incision he could get much quicker round and he had met with no difficulty as regarded after treatment. Where the animal could not be put in slings such good results did not follow.

The CHAIRMAN said that after a military experience of over thirty years he felt very strongly on the subject before the meeting. He had formed definite opinions regarding it which he should have liked to state in detail had time allowed. Of one thing he was perfectly convinced, he thought that the shoeing smith was improperly blamed in the large majority of cases. He did not for a moment contend that capped elbow was not caused by long shoes, but in the Army it was not so. His belief was that in a small minority of cases only could capped elbow be ascribed to the shoe. Then capped elbow was attributed to the want of bedding. It was not so much insufficient bedding as bad, irregular floors, that caused capped elbow. In the Army his experience was that, in their comparatively new stables with good flooring, even when a horse pushed its bedding away, capped elbow did not ensue During the Crimean war. when the flooring of their stables consisted of irregular cobble stones, capped elbow was not uncommon. But since the Army stables had been built upon better principles, with better floors, capped elbow was very seldom met with. When Army horses were cast and sold they might find a large percentage with capped elbows; but here again he attributed this rather to hard floors than to long shoes. He proposed a cordial vote of thanks to Mr. Butters for his excellent practical essay.

Mr. REEKIE seconded the motion, which was carried unanimously.

SPECIMENS.

Mr. ROGERS exhibited a specimen of a horse's mouth "Bishoped" which he had recently come across and reserved from a knacker's yard.

Professor PENBERTHY said that the practice of Bishoping was on the increase he feared. He had met with more of such cases within the last two years than he had done previously during the whole of his veterinary experience.

Mr. BRUCE: During the last two months I have seen two cases.

Mr. CHESTERMAN exhibited the mummified fœtus of a cart mare, the mare having, it was explained, been in London over two years, during which time it had no connection with a stallion.

On the motion of Mr. H. Edgar, seconded by Prof. Penberthy, a vote of thanks was accorded the Chairman, and the proceedings then terminated.

ELECTION OF COUNCIL.

An unfortunate error in the Voting Papers states that there are eleven vacancies, whereas there are only eight. All papers bearing more than eight votes will be wasted.

EXTRACTS AND NOTES.

THE INFLUENCE OF MILK IN SPREADING ZYMOTIC DISEASE.

The following extract is taken from a report published in the last two issues of *The British Medical Journal*.

It will be unnecessary for me to in any wise refer to the question of causation of disease by the agency of milk as being contentious in any degree. As far back as the seventies the matter was practically placed within the pale of certainty, and assuredly by 1881 the public had come to recognise the relationship between milk and disease as clearly proven. At the same time the matter has undergone rapid development, to a large extent due to the very able and elaborate investigations conducted by Mr. W. H. Power, F.R.S., the assistant medical officer of the Local Government Board, whose lucid reports, aided by the bacteriological inquiries of Dr. Klein, have demonstrated beyond doubt that there is direct causal relationship between conditions of milch cows and disease in the human subject, in the cases of diphtheria and scarlatina. The Hendon outbreak of 1885, of which I shall have occasion to speak, has become classical in the region of epidemiology, the relationship of teat and udder eruptions in the milch cow to scarlatina in man having been brought prominently forward in masterly fashion in the papers published by the late Sir George Buchanan, and containing reports from the pens of Mr. Power, the late Dr. Cameron of Hendon, and Dr. Klein. It is the recognition of the cow as herself having to do with the infective quality of her milk that has chiefly marked the last ten or twelve years in the direction of added knowledge as to milkborne disease. It has been a hard fight to secure the verdict of veterinary authorities in favour of the view held at Whitehall, but just as the theory of aërially-spread small-pox has to be maintained in the face of great opposition, finally to be accepted by the leading public health experts of the day, so has the theory of cowborne maladies had to be contended for, but the result in the long run has been the same.

HOUSING OF MILCH COWS.

Some amount of attention is, as will be readily agreed, necessary to the conditions of housing of milch cows. In the case of Hastings, in 1893 (No. S. 27), the cowsheds

outside the district were badly drained and ill-paved, and deficient in ventilation; and Dr. Scarlyn Wilson, the health officer, is of opinion that the febrile condition of the cows noticed was doubtless due to the insanitary character of their housing. The milk in question at St. Helens, in connection with an outbreak of typhoid fever in 1895 (No. T. F. 46) came from a shippon which was in a filthy state, and in which cows and pigs were both housed, the floor being rubble-paved, a gully being in the shippon, and inches of animal manure littering the place. These are conditions for which there can be ad duced no reasonable excuse, cleanliness being one of the prime essentials of all dairying businesses.

Farmers as Scavengers.

Dr. Brown, of Bacup, has drawn attention to the case of a dairy farmer who combined the occupation of dairy farming with that of scavenger, having in the latter capacity to see to the removal of night soil. Dr. Brown very properly animadverts on this strange and dangerous multiplication of offices, pointing out how easy it is to surmise the entry of hurtful matter into any milk with which the farmer had to do (No. T.F 41).

Concealment of Infectious Disease.

The concealment of infectious disease on dairy farm premises and the like has played its part in the causation of disease through the agency of milk. At Sunderland in 1882, in connection with an outbreak of scarlatina (No. S. 5), the illness at the dairy in question was only accidentally discovered, it not having been reported. At a milk shop in Hull (No. S, 7) a child was ill with scarlatina three weeks before knowledge of the case came to the health authorities, and no steps had in the interval been taken to guard the milk from chance of infection. And these are but instances taken from the list of epidemics summarised.

Storage of Milk.

The storage of milk has ever been an important matter in the course of inquiry into milkborne epidemics, and instances of neglect in the direction of exposure of milk to deleterious influence in this way have been by no means infrequent. At Shirley Warren, in Hampshire, in 1894 (No. S. 22), it was ascertained, while inquiring into an outbreak of scarlatina traced to milk, that the milk in question was placed without a cover in a penthouse, under the same roof as an adjoining house wherein was a boy suffering from the same disease, he having also access to the penthouse while in a stage of desquamation.

The Prohibition of Infected Milk.

One of the most useful and at the same time drastic measures which can be taken with the view of staying the progress of disease traced to the agency of milk is the stopping of the sale of the article by the farmer or retailer in the district affected. In the case of an outbreak of typhoid fever at Dundee in 1883, and traced to milk (No. T. F. 11), the sale of the milk was stopped under the provisions of a local Act.

"Ropy" Milk.

It has been interesting, while collating the facts given in the abstracts of milk outbreaks since 1881, to notice how new features and factors have been brought out and added to our knowledge of milkborne diseases. One of the points to which my notice has thus been called is the condition of milk known as "ropy." In his very able report on an outbreak of diphtheria at Hendon in January 1883 (No. D. 2), Mr. Power referred especially to this ropiness of the implicated milk, which condition has been early noticed by Dr. Cameron, the medical officer of health, and also by the farmer, whose attempts to discover which of his cows was giving the ropy milk failed even a few hours after the last distribution from his dairy of milk in a state of ropiness. The evidence went far to convince Mr. Power that ropiness of milk may tend to disappear rapidly, or that it may not ensue until the milk has stood for some time, whilst also the ropy quality may be one of growth from small beginning, ropiness of large degree being the multiplied result of a small quantity of ropy milk added to some larger quantity of normal character. Mr. Power significantly chronicled a growing misgiving to the effect that ailments of animals so trivial as to be disregarded or even unnoticed by people about them might have larger concern with occurrence of specific disease in the human subject than had theretofore been thought likely. Looking to-day at the position of we have reached in this direction, we can see how well defined were the "misgivings" which Mr. Power so guardedly promulgated on a public hardly sufficiently educated to accept the notions with which he was even thus early imbued. We see evidence of ropy milk playing its part in the scarlatina outbreak at Charlton in 1892 (No. S. 22); and at Warminster, where a milkborne outbreak of typhoid fever occurred in 1895 (No. T. F. 47), persons using the implicated milk testified to its "ropy" and putrid state on two or three occasions. Whatever may be thought of the matter, it is certain that a stringy or ropy condition of milk has had its share in the potency of milk to produce disease.

Milk of Newly Calved Cows.

I come now to a very important discovery of modern times, a discovery that is of not more than fifteen years' standing and having a direct bearing on what has just gone before. I refer to the factor which the calving of cows has been found to be in the causation of disease by use of their milk shortly after the physiological process of calving. An extensive outburst of a mild sort of scarlatina in the north of London, investigated by Mr. Power for the Local Government Board in 1882 (No. S. 3), seemed by the inquirer to arise from some condition of the milk of a cow recently calved. This animal had lost portions of her coat, whilst her buttocks and posterior udder, when seen by Mr. Power in the month following the outburst, were fouled and stained by excremental matter, and perhaps, he thinks, by vaginal discharge as well. The milk was distributed to several sanitary areas in London, and the story of special incidence on consumers of the milk of the scarlatina was the same from all. The malady attacked persons who partook of the milk whether at the terminus or from shops. Dr. Parsons, in connection with the outbreak of milk-scarlatina which he investigated at Upton and Macclesfield in 1889 (No. S. 18), dwells on the circumstance of a recently calved cow having been added to the animals from which milk was being drawn at the farm implicated.

These instances have been both of them culled from reports of experts attached to the Local Government Board, but I state one now from the pen of Dr. Bostock Hill, of Sutton Coldfield, where was a milk-scarlatina outbreak in 1891 (No. S. 20), and as to which he tells us that the outbreak was of the nature of explosions coinciding with periods of ulceration and eruptive conditions of a newly-calved cow. This cow was much emaciated, with some indication of recent ulceration of teats, whilst later she had an ulcer on one teat and an eruption on the udder. A second cow presented similar indications. Thus we are face to face with a fact, and it is the more important when we remember that the condition attaching to newly-calved cows is not one which has been deemed of any significance by veterinary inspectors. Indeed one may be pardoned for saying that the subject of milkborne disease is furnishing history of long struggles by medical as opposed to veterinary opinion. But this struggle has been harder in the matter of eruptive diseases of cows than on any other point, and the victory has been certainly with the medical experts.

Eruptive Diseases of Milch Cows.

Eruptive conditions of teats and udders of milch cows have received some amount of attention in regard to their supposed ability to cause infective quality of the milk secreted by the animals affected. The now well-known "Hendon" disease of the teats and udders is the first case that I will recall (No. S. 10), Mr. Power being the investigator, whose theory startled the medical and veterinary world, he stating that he looked to the condition of certain milch cows, which manifested outwardly an eruption of teats and udders, as the *vera causa* of scarlatina in consumers of their milk. This condition was one communicable from cow to cow. The special incidences of the diseases were seen to be governed by the movements of certain cows in the sheds whence the milk came, Mr. Power proceeding to show by a process of very careful exclusion that the ordinarily conceived methods of spread of the disease by milk were not to be thought of in this instance.

The controversy which raged round the circumstances attending this Hendon outbreak must still be fresh in the minds of those who followed the subject, the veterinary world being especially convinced that the theory held by the Medical Department of the Local Government Board was untenable. But events have proved, as in so many other instances, that the views put forward by the Public Health Department of the State were right, and that the only thing to do was to accept with what grace could be found the convincing arguments and solid data which went to uphold the theory as matter of fact.

Summary.

Thus far, and in very brief fashion, I have set out some of the chief points which are seen to arise on looking over my abstract of milkborne epidemics and outbreaks. The story as related is sufficiently sad and deplorable. It is one that reflects little credit on our boasted sanitary advancement. I am bound and ready to admit that much of the disease traced to the agency of milk has been caused by reason of cow conditions that have in the past been too little understood, and that to a corresponding amount the credit of our country has been saved from the charge of carelessness about disease-disseminating conditions. But when this has been said there remains still very much in the past that throws a strong light on the dark side of English sanitation in relation to milk supplies. We must not forget that in milk we have a staple article of food for many thousands, and that to children and to invalids it is a matter of great moment that our milk services shall be free from any quality likely to prove injurious to consumers of this farm produce. We already know to our cost that we are frequently, for example, called upon to purchase as milk that which is in fair proportion only the contents of our public water mains, or indeed the contents of some polluted farmhouse well or adjacent ditch. Where milk as an article of diet is prescribed in a medicinal sense it is, to say the very least, hard that it should prove to be the source of disease and even of death. To be killed by professing remedies is a bitter irony of fate. But the fact remains that, treat it how we may, there is death in the milk pail and also in the milk, the one source being too often the fault of man, and the other the result of disease in the milch cow. The whole subject of milk supply is one of vast import in whatever light we look at it, and is none the less so by reason of the proven capability of milch cows to give to the milk which they secrete a quality of infectiveness which carries disease and death in its train.

These things being so beyond the region of dispute, the question arises. What is to be done with the view of safe-guarding ourselves against recurrence of the evils attending our milk trade?

Ernest Hart.

Appendix I.

DIPHTHERIA AND SORE THROAT.

1.—Rugby.

Date of Outbreak: March, 1881. *Reporter:* G. Wilson, M.D., M.O.H.

Exciting Cause of Outbreak.—Mixture with milk of healthy cattle the produce of a cow suffering from "garget."

2.—Hendon.

Date of Outbreak: January, 1883. *Reporter:* Mr. W. H. Power, F.R.S.

Exciting Cause of Outbreak.—Local health officer regarded contamination of milk as having probably been caused by sewage gaining access to dairy pond by overflow of ditch which is apt to occur. Pond water found to be largely fouled by sewage matter. Mr. Power looks upon the ascertained "ropy" condition of the milk, at a time consistent with his theory, as having given rise to its infective quality, a quality strictly limited in point of time.

3.—One of the London Suburbs."

Date of Outbreak: April, 1883. *Reporter:* Morell Mackenzie, M.D.

Exciting Cause of Outbreak: Not traced; but questions arose as to cause arising from (1) direct contamination of milk by human agency; (2) poisoning by impure water; (3) affection of the cows capable of conveying diphtheria; and (4) atmospheric transmission of the poison of diphtheria from pre-existing cases.

6.—Canterbury.

Date of Outbreak: July 1886. *Reporter:* Dr. Wacher, M.O.H.

Exciting Cause of Outbreak.—Milkman and his family found to be suffering from sore throat; and four calves had been suffering from diarrhœa.

7.—York Town and Camberley, Surrey.

Date of Outbreak: October, 1886. *Reporter:* W. H. Power, F.R.S.

Exciting Cause of Outbreak.—Not definitely made out. Some people blamed contamination of milk by human agency; this not probable. Others deemed the use of polluted water as the cause; this not borne out by the facts. Most likely cause, the use of the milk of two cows after calving, their milk being brought into the business at a time parallel with the epidemic outburst of diphtheria.

Croydon.

Date of Outbreak: October, 1890. *Reporter:* Dr. Philpot, M.O.H.

Exciting Cause of Outbreak.—Teat eruptions in cows, stated by Dr. Klein to be similar to those met with in diphtheria outbreaks traced to milk of diseased cows.

Co. Worcester.

Date of Outbreak: November, 1891. *Reporter:* Dr. Thursfield, M.O.H.

Exciting Cause of Outbreak.—Two or three cows, the milk of which was used by the keeper's family and the rest made into butter, affected with particular disease of teats, pustules bursting in the act of milking, the cows being in a febrile state.

Glasgow.

Date of Outbreak: August, 1892. *Reporter:* Dr. Russell, M.O.H.

Exciting Cause of Outbreak.—Nearly all of a herd of 53 cows suffered from teat eruptions, small in beginning, but leading to ulceration. Ulcers yielding faintly-coloured fluid; three or four on one teat; sometimes all teats affected. "Hendon" streptococcus isolated from lymph, as proved by growth and inoculation into mice.

Two varieties of eruption in question shown by experiments on calves with scabs from ulcers, one being true vaccinia, the other a non-vesicular eruption of a specific character like that of "Camberwell" outbreak. No suggestion of desquamation or evidence of constitutional disturbance in cattle, as observed in Hendon and Camberwell cases. Farmer and three other milkers had eruptive sores on hands, one being compelled to stop work.

FINCHLEY.

Date of Outbreak: November, 1894. *Reporter*: Dr. Kenwood, M.O.H.

Exciting Cause of Outbreak.—Three cows supplying the milk had diseased teats, and one had a chronic abscess of her udder.

APPENDIX II.—SCARLATINA.

NORTH LONDON.

Date of Outbreak: January, 1882. *Reporter*: W. H. Power, F.R.S., L.G.B

Exciting cause of Outbreak.—Some condition of one cow recently calved may be looked upon as the exciting cause of infective quality of the milk. She had lost portions of her coat, and her buttocks and posterior udder, when seen by Mr. Power in February, were fouled and stained by excremental matter, and perhaps by vaginal discharge as well.

NORTH LONDON AND HENDON.

Date of Outbreak: November and December, 1885. *Reporter*: Mr. W. H. Power, F.R.S.

Exciting Cause of Outbreak: A condition of certain milch cows, which had for its outward manifestations an eruption of teats and udders, and which was communicable from cow to cow. Subcultures of the ulcerous discharge of the affected animals as well as the original discharged matter itself, produced in calves into which the material was inoculated a disease having unmistakable affinities under some conditions with the disease in the milch cows, and under other conditions with scarlatina in the human subject.

WIMBLEDON AND MERTON.

Date of Outbreak: December, 1886, and January, 1887. *Reporter*: Mr. W. H. Power, F.R.S.

Exciting Cause of Outbreak.—Not definitely ascertained. But of the cows seen, "some few appeared to be recovering from affection of the skin and udder, very similar to the malady reported on by Dr. Klein as having occured among certain cows at Hendon" (see No. 10).

STAPLETON.

Date of Outbreak: April, 1887. *Reporter*: Dr W. Brown, M.O.H.

Exciting Cause of Outbreak.—Pool from which the cows drank, and in the contents of which some of the dairying vessels were washed, polluted by sewage.

NORFOLK.

Date of Outbreak: December, 1887. *Reporter*: Dr. H. Mallins.

Exciting cause of Outbreak.—Rash on Teats of cow, and milk, when allowed to stand, of distinctly greyish colour. Cow also had a "humour" all over its body, the rash having the appearance of small red pimples. Later on cow desquamated freely.

UPTON AND MACCLESFIELD.

Date of Outbreak: February, 1889. *Reporter*: Dr. Parsons, L.G.B.

Exciting Cause of Outbreak.—Milk cans rinsed out with cold water from this well, but this not deemed the means by which the milk got contaminated. Most likely cause, the use of the milk of a cow recently calved. Later on this cow was found to have developed vesicular sores on her teats, and her milk was then rejected. She had lost flesh.

SUTTON COLDFIELD.

Date of Outbreak: February-April. 1891. *Reporter*: Dr. Bostock Hill, M.O.H.

Exciting Cause of Outbreak.—One cow recently calved, much emaciated, with some indication of recent ulceration on teats. Later she had extensive patches of desquamation, an ulcer on one teat, and an eruption on the udder. Appearances those of Hendon outbreak of 1885 A second cow presenting slight indications of same condition.

BUSH HILL PARK, ENFIELD.

Date of Outbreak: November, 1891. *Reporter*: Dr Copeman, L.G.B.

Exciting Cause of Outbreak.—Not definitely ascertained, but some of the cows had abraded teats; some had boils on their udder; one cow had a vesicular scab, but Dr. Klein failed to discover any streptococcus corresponding with that in the case of the Hendon cow malady.

CHARLTON.

Date of Outbreak: March-April, 1892. *Reporter*: Dr. Hamer, L.C.C.

Exctiting Cause of Outbreak.—Illness of one cow, milk ropy, severe cold, udder and teats presented scabs and excoriations.

GLASGOW.

Date of Outbreak: August, 1892. *Reporters*: Drs. Russell and Chalmers.

Exciting Cause of Outbreak.—Ulcerative eruption on the udder and teats of the cattle—vesicular, quasi-pustular in form, crusted with blackened centre. Such are some of the terms applied to the affection, which was communicable by some means from cow to cow and from shed to shed. Sores also formed on the hands of some of the milkers. Condition of teats only discovered on cows becoming restive under action of being milked. Dr. Klein found the disease in these milch cows to be allied in some points to that in the Hendon and Camberwell milkborne epidemic.

LANGHAM. ESSEX.

Date of Outbreak:—October, 1892. *Reporter*: J. Cook, M.D., M.O.H.

Exciting Cause of Outbreak.—Suspicious udder eruptions on 2 cows at farm.

HASTINGS.

Date of Outbreak: November, 1893. *Reporter*: Dr. Scarlyn Wilson, M.O.H.

Exciting Cause of Outbreak.—Cows in a febrile condition, due doubtless to insanitary character of their housing accomodation. A sample of mixed milk of the several cows showed bacteria (character not determined) on analysis.

BLACKHEATH.

Date of Outbreak: March, 1894. *Reporter*: M. Shirley Murphy.

Exciting Cause of Outbreak.—Cows newly calved on dairy premises; also cattle having udder affections. But no causal connection with the outbreak made out in the case of these milch cows.

A Veterinary J.P.

Mr. Alexander Lawson, of Manchester, was elected Chairman of the Ashton-upon-Mersey District Council, on the 27th of last month, and qualified as a Cheshire County Magistrate the following week.

RINDERPEST IN SOUTH AFRICA.

GOVERNMENT NOTICE.—No. 296, 1897.

RINDERPEST.

The Directions for use of Professor Koch's Preventive Inoculation against rinderpest with bile are hereby published for general information.

Attention is drawn to the importance of closely following the directions in every detail, especially in regard to disinfection of all persons who have handled or come in contact with diseased animals when taking the bile.

CHARLES CURREY,
Under Secretary for Agriculture.

DIRECTIONS FOR INOCULATION AGAINST RINDERPEST WITH PROFESSOR KOCH'S BILE (OR GALL) METHOD.

To take the Gall

An animal, preferably a large one with a high temperature, must be selected, at the 6th or 7th day after the first rise of temperature, or the 4th or 5th day of visible symptoms.

Gall of an earlier or later date is useless.

The beast must be killed, laid upon the left side, and a cut carefully made with a clean knife through the skin and muscles all along the edges of the ribs from the back to the breast.

The skin of the belly must be turned down by means of a cut along the back.

An assistant, with perfectly clean hands, must now grasp the gall bladder by the neck or that part which is attached to the liver.

The gall bladder will be found under the edge of the liver close to the edge of the ribs.

The operator places a wide-mouthed bottle, holding about half-a-pint, under the gall bladder, taking care not to soil it.

The gall bladder is then pierced with a clean sharp knife, and the gall received into the bottle, which is immediately closed.

The bottle must previously have been cleansed with boiling water, and thoroughly rinsed with alcohol.

The gall to be useful must be of a dark grass green, sweet smelling, and clear without sediment.

Galls taken from animals which have died, unless the duration of the disease is known, are not to be recommended.

Galls of any other colour than green must be rejected.

The gall can be kept for a few days, this depends upon the weather, the keeping is most successfully effected by hanging the bottle containing the gall in a water bag in a shaded draughty place.

If the gall smells or changes colour after keeping, it must be rejected.

To Inoculate the Animal.

Cast it.

Tie the legs securely.

Hold the head down.

Pinch up the skin of the dewlaps between the finger and the thumb and insert the injection needle.

The needle must go in between the skin and the flesh.

Put 10 cubic centimetres of the gall into the syringe and inject it.

Animals which have already been infected and animals exposed to infection up to six days after inoculation are not protected.

Cases will therefore occur in inoculated herds up to the 12th day.

Persons who take the gall from an infected animal must be disinfected, and change their clothes and boots before attempting to inoculate an infected herd.

(Signed) KOCH.

DR. KOCH'S INOCULATION A FAILURE.

We hear from Kimberley, on the very best authority, that the greatest misgivings are felt in official circles as to the efficacy of Dr. Koch's alleged cure for rinderpest.

From information of an absolutely trustworthy character, it appears that out of 800 cattle, recently inoculated in the Orange Free State under the supervision of Government officials and in strict accordance with Dr. Koch's methods, no less than 150 oxen thus inoculated have died, while at least another 200 are afflicted with the disease in a serious form.

It will be remembered that Dr. Koch ascribed a period of ten days from the date of inoculation, within which it might be expected that rinderpest in a mild form would appear. After that period he laid it down that the cattle inoculated would be safe from the disease.

It is a significant fact that none of the 150 cattle which died of the rinderpest, as stated above, developed the disease till after the expiration of the period laid down by Dr. Koch in his report to the Government of February 10, wherein he stated that absolute immunity was guaranteed at the expiration of the 10th day.

The profoundly serious import of the news is self-evident, and needs no emphasising. Already many farmers have begun to protest against the slaughter of their cattle on the ground that Dr. Koch's cure obviates the necessity of wholesale slaughter. The failure of the cure, therefore, if confirmed, cannot but seriously embarrass the hands of the Government.

It is noticeable, by the way, that at Herschel, according to our correspondent, inoculation has been stopped, awaiting present results.

It is a thousand pities that Dr. Koch could not have remained in South Africa long enough to see his cure in practical working order.

THE REMEDY IN BASUTOLAND. A COMPLETE FAILURE.

The grave information which we published on Saturday in regard to the efficacy of Dr. Koch's alleged cure for rinderpest is confirmed to a great extent by the following additional facts, ascertained from a high authority.

There are serious grounds for believing that Dr. Koch's cure for rinderpest, like his consumption cure, has been prematurely announced. In several districts in the Free State farmers declare that instead of inoculation on the Koch method being a preventative of rinderpest, it is an active and effective agent of spreading the disease. At Rouxville, for instance, stock was inoculated according to Koch's instructions, but the effects were *nil*, the cattle continued to die as before. Last week intimation was sent round to the stock-owners that the inoculation would be repeated.

One whose inoculated cattle had died in large numbers refused to have anything more to do with, as he expressed it, "Koch and his cure." It is worthy of note, that one of this gentleman's cows which was inoculated was attacked by the disease and recovered. Again, in Basutoland six cattle were inoculated, having been specially selected and kept apart from the others for experimental purposes, one object, for instance, being to afterwards turn the six amongst infected cattle, and thus, if they defied the disease, demonstrating the efficacy of the cure. But unfortunately for the demonstration, according to the latest information, three of the six have succumbed to the disease.

In the case of the Free State it was contended that the inoculation in many instances had been improperly performed. The delicate and exact experiments made by Dr. Koch which led to his discovery had in a manner,

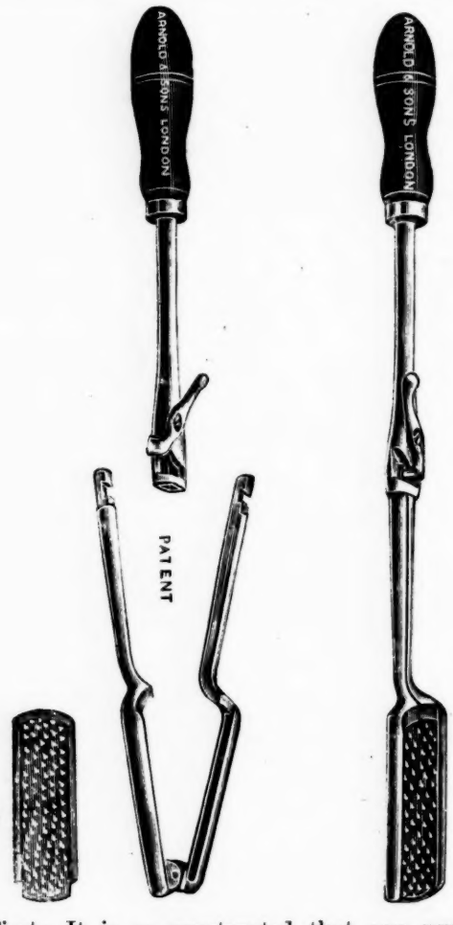
it was said, to be repeated to ensure successful inoculation. Few of the Free State farmers are familiar with the arts of the laboratory, and therefore it was not surprising that while they followed Dr. Koch's instructions, they did so in such a manner, it was said, as to preclude the possibility of success. But in the case of Rouxville, the inoculation was performed by a medical man who had received his instructions from Kimberley.

In Basutoland the work was executed by two experts, who went to the country specially to inoculate the cattle, travelling direct from Dr. Koch's laboratory at Kimberley.—*Cape Times.*

RELIANCE TOOTH RASP.

(PATENTED.)

The illustration shows a new form of Tooth Rasp.



First: It is so constructed that any number of plates can be easily fitted.

Second: Hitherto rasps with movable plates have been made with screws either fitting into the plate or pressing on it, and as these plates are necessarily hard, they are continually breaking; now this invention aims at obviating this difficulty.

Third: Four kinds of plates can be used, viz., fine cut, coarse cut, cut both ways, and file cut.

Fourth: Extra plates are supplied at the nominal charge of 1s. 9d. each.

The rasp is extremely portable, folding into a very small space for carrying.

The patentees and manufacturers are Arnold and Sons, of West Smithfield, London

ARMY VETERINARY DEPARTMENT.

At the Leveé, held by H.R.H. the Prince of Wales, on 17th inst., the undermentioned veterinary officers were presented :—Vet.-Lieut.-Col. J. Reilly on promotion. Vet.-Lieut. F. B. Drage on appointment to Royal Horse Guards.

Extract from *London Gazette*, dated 18th May, 1897:—

Vet.-Captain E. E. Bennett, F.R.C.V.S., retires from the service receiving a gratuity, with permission to retain his rank and wear the prescribed uniform. Dated 19th May, 1897.

P. J. Harris, Gent., to be Vet.-Lieutenant in succession to Vet.-Captain E. E. Bennett, F.R.C.V.S. Dated 19th May, 1897.

The undermentioned veterinary officers embarked for South Africa in veterinary charge of Royal Artillery horses :—Vet.-Lieut. E. W. Larnder, 13th inst. in S.S. "Dilwara." Vet.-Capt. J. T. Coley, 15th inst., in S.S. "Jelunga"

Vet.-Lieut. F. Eassie arrived at Limerick from Aldershot for duty on 13th instant.

Vet.-Captain G. R. Griffith, D.S.O. Principal Veterinary Officer Egyptian Army has arrived from Egypt on leave of absence.

Vet.-Lieut. E. E. Martin arrived on 15th instant on six months leave of absence from India.

CORRESPONDENCE.

HALIFAX DOCKING CASE.

SIR,

In mentioning the adjournment of the above case to the 31st inst. in your issue of Saturday last, I notice you state "the alleged cruelty consists of docking a horse, but under what circumstances no one seems to know. Before the profession makes itself responsible for a case details should be known." As solicitor to Mr. Appleyard I think in fairness to him I ought to state that as legal proceedings have been taken against him, and are still pending, I do not consider the facts relating to the charge should be published. There is no wish to keep any one in ignorance of the history of the case, but until it has been adjudicated upon I do not think any statement bearing upon it should be made.—Yours truly,

WM. H. BOOCOCK.

Silver Street, Halifax.

FARRANT *versus* R.S.P.C.A.

SIR,

I have read with care the report of the proceedings, *re* charge of cruelty against Mr. Farrant, M.R.C.V.S., and I venture to state that few practitioners will agree with the issue.

I note that the bay mare "Miss Ellard" was injured on December 8th or 9th; that she has since been under Mr. Farrant's care at East Grinstead, and prior to April 5th Mr. Farrant considered it wise to have her turned out for two or three weeks, as curative and preparatory treatment to his sending her to his farm at Forest Row; that on April 5th she was removed slowly and carefully to said place, and that on the journey she was seen by P.C. Kidd, and was considered by him to be suffering

pain and unfit to walk. She was seen by Mr. Green, Inspector for the R.S P.C.A., and examined by Mr. Roberts, F.R.C.V.S., on the 8th, by Professor Pritchard on the 11th, Mr. Hunting and Mr. Maller, on the 19th, Professor Macqueen on the 21st, and Professor Shave on the 26th.

Re Mr. Roberts' examination. It is evident that he made a careful inspection, but when he states that "to reduce the deposit around the joint rest and not exercise is wanted." I fear he must be classed amongst the old school of practitioners, especially as the mare seems to have had abundance of rest, only to be followed by a continued deposit and atrophy of the muscles.

As regards Professor Pritchard, ex-president of the College, he comes before us as one who gives at once the impression that he is veterinary wisdom personified, and that it will die with him. Listen to him—"I did not examine the mare carefully, I contented myself with my eyesight. The case was so palpable that I did not think it necessary to apply tests." Further on he makes the admission "I cannot say what the original injury was," yet he asserts, without knowing what is amiss, "exercise of the limb would produce pain ten times worse than the disease."

How the learned Professor comes to this conclusion is to me a mystery. He even asserts, with Mr. Roberts, that the animal was unfit to go about the field to gather its own food.

I wonder what treatment the Professor himself would have adopted in this case, as it is evident that perfect rest did not effect a cure. I presume he would have considered it a case of less cruelty to allow the animal to stand in a stationary condition till the sound limb itself became the seat of disease, either by the tendons giving way under the strain, or from a bad attack of laminitis setting in, as is frequently seen in such cases.

What can be more painful than to see an ex-President of the College coming forward and boldly asserting that a brother practitioner has been guilty of an act of cruelty when the case is a doubtful one, and when much more can be said in his favour than against him, it would have looked much better if the Professor had remembered the golden rule in dealing with a professional brother 35 years his junior.

It must surprise many readers of *The Record* to find such weighty evidence as that adduced by Messrs. Hunting and Maller, and Professors Macqueen and Shave set aside when they all agree that the exercise was rather to the benefit than the injury of the animal.

I trust that at the forthcoming Quarter Sessions, when the appeal is heard, that the case will be decided as one of "no cruelty," or dismissed in the words of Mr. Atkinson, expressed in *The Record* of the 8th inst.; "An error of judgment is one thing, wilful cruelty is another."—Yours faithfully,

J. Pollock, F.R.C.V.S.

Norwich.

"WOMEN" VETERINARY SURGEONS, ETC.

Sir,

Am I dreaming? No! "I am in favour of ladies being admitted to the examinations, and receiving the diploma of the R.C.V.S." Great Scott! What next? Surely an individual who makes use of such astounding language in an appeal for the votes of his *confrères*, must be utterly devoid of common sense.

When, a short time since a similar project hailed from America (the land of sensations), it was received with a storm of well deserved scorn and ridicule by the press and sensible people generally, but now that it gains the support of one who has a seat for the governing body of the R.C.V.S., right thinking people look aghast at such humbug and foolery, for it is nothing better. Where are the viragos to follow such a calling? Thank goodness in my humble estimation they are few and far between. Certainly there are many callings from which women have been excluded that they can and should competently fill, but that of a V.S. is out of the question entirely and no true womanly nature would tolerate such an idea. Now, is a woman physically fit or would it be decent for her to castrate, fire, calve, foal or many other jobs that a busy V.S. is constantly doing. There is a delicacy over such matters, proper that it should be; I know this from a life-long experience, having as it were been born a V.S., even so among farmers' wives who know the nature of such things, up to now I have never heard of one castrating, foaling or calving; although I will confess that on two solitary occasions, once at a calving and the other at a foaling, I had feminine aid when none other was forthcoming; but must say that it was most reluctantly and modestly rendered.

"Those members who solicit a neighbour's clients." Fiddle-de-dee! What has the Council to do with this, surely a case only of honour among ourselves. Why not get the Council to say where a member shall have his washing done, members must not ride bicycles, dress "horsey," etc., etc. If Mr. Kidd has been on the Council for eight years it is quite time that the services of such a "dreamer" were dispensed with, for after this his good judgment must be estimated at a very low figure.

Certainly he will not have the support of your obedient servant,

A "Fellow" from the Country.

May 18, 1897.

"SOUNDNESS" AND "UNSOUNDNESS."

Dear Sir,

With your permission I should like to point out the absurdity of some of the remarks *re* "Curb" at the Yorkshire V.M.A. meeting.

The Essayist seemed to be very open and trustworthy with regard to his views of the causes, diagnosis, and treatment of the various forms of sprain, and gave a really good paper on the subject, but spoiled it at the finish by admitting curb to be an unsoundness, and then saying he "never condemns a horse as "unsound" because of a curb," and in his reply to the discussion further says "He did not pass a horse "sound" when suffering from curb *no matter how small it was*, and the reason he did not do so was that the law held him responsible for an omission of that kind. He worded his certificate that he had examined such a horse and *found him sound with the exception* that it had a curb." Now, sir, as a matter of fact he does nothing of the kind, because if the animal has a curb he does not find it "sound" and why he is not as open in his certificate writing as he is in the text of his otherwise excellent paper I do not know, except that sellers of horses like to have the word "sound" in the certificate even when it is qualified in the next sentence by an "unsoundness," because they say such certificates *sell their horses* and I have frequently been asked by horse-dealers and other sellers of horses to write certificates in that form on that account. I think the proper way is to say any horse with a curb, however slight, is unsound and qualify if you like by an opinion as to whether it will, or will not, interfere with the animal's usefulness to your client according to the size and condition of the curb and the kind of work the animal is to perform. None of us *ought* to disagree as to the unsoundness, but the *value* of the defect as to usefulness is a point we shall probably always have differences upon. Why one person should call a horse "sound" and another "unsound when *both agree the defect is present* is beyond my comprehension.

I think the profession should adopt a regular and definite form of certificate and call diseases by their right (recognised) names, and give the value of the defect—which invariably is not worth much—to their clients if they like. For instance, if we find a swelling at the back, about three inches under the joint, of the hock—in fact any deviation from the normal straight line over the tendon at this point, be it ever so slight—we should call it what it is, viz., *a curb* and an *unsoundness*. Few of us admit that any horse is as good, either in value or working capabilities, with a curb as it is without. Further, I am quite sure no veterinary surgeon or horse dealer who knows his business would say so, nor would he buy a "curby horse" as a *sound* one if he knew it. Then why have these differences of opinions without distinctions upon such trifling matters and shirk writing on a certificate what we recognise as facts.—Yours, etc.,

G. A. Banham, F.R.C.V.S.

ADVERTISING.

Sir,

I am sorry to see this subject has been somewhat dropped of late, although one of our candidates for the Council draws our attention to the fact that the Council has "nearly suppressed undue advertising" and suggests the advisability of dealing "with those members who solicit a neighbour's client."

I don't know whether the term "advertising" has ever been defined by those in authority, and I should like to know what is meant by *undue* advertising. I may say I am one of those who consider open advertisements do us no harm, either singly or collectively, in the eyes of the public, but the powers which our Council has taken upon itself to exercise may be utilised in a very cruel and oppressive way, and cause a great deal of annoyance and trouble to individual members to say the least of it. Why should not a member of the profession advertise the goods he has to sell? What harm can it do to anyone? Personally, I would much rather my opponents publicly advertised their medicines and prices of same, and, if they like, their specialities in professional skill if they have any, and it is the *truth*, than that they should find out the prices of my draughts, lotions, operations, etc., and then go and call (or what perhaps is worse, send a mutual friend to call) upon my clients and offer to sell similar drugs and perform operations at lower prices. Which of these two would be the meanest method of business? Moreover, I do not believe for a moment that the public think any the worse of those who are guilty of such contemptible practices. The majority of the public consider them sharp business men.

But sir, although some can do business in this underhand begging fashion which is legitimate according to our present professional rules, others cannot, because they are above such actions, in fact, they would be *ashamed* to do them. The consequence is, they must suffer because they are debarred the legitimate, conscientious and honourable method of business viz.—advertising their goods. Moreover, the greatest opponents to the country practitioners at the present time are the advertising medicine vendors, the quack who will do things which no respectable veterinary prectitioner can do, and the low class veterinary surgeon who hobnobs with dealers and grooms, and fees them to get in their good graces to "get the work."

Whether it is considered a retrograde step or not I should like to see this state of things rescinded, *and that at once*, and give the members a free hand to legitimately and publicly vie with their neighbours and with the usurpers of the various branches of our calling.

If we country practitioners wish to have this altered we should refuse to vote for any candidate who is in favour of binding us down so that we cannot advertise the goods we have to sell, for say what we may this is a profitable part of the veterinary work, and one which few ordinary country practitioners can afford to overlook.

Yours faithfully,

"Facts."

HIGHER EDUCATION FOR VETY. STUDENTS.

Dear Sir,

Were any proof wanting of the necessity for Higher Education among Veterinary "Graduates" none more conclusive could be produced than that afforded by many of the election addresses now being sent out to the Profession; which, in their composition and punctuation, leave much to be desired.—Yours truly,

A Young Graduate.

DOG TOOTH FORCEPS.

A Reply to Mr. H. N. Carter.

Sir,

Lest it should be said, or even thought that I have appropriated the ideas of somebody else, *re* the tooth forceps made by Messrs. Arnold at my suggestion, I think it only right in justice to this firm and to myself to state that they received definite instructions from me on August 20th, 1896, although the patterns had been under consideration since the previous year. The *fine serrations at the ends of the jaws* of dog tooth-forceps are by no means a new idea for I have been using models with *serrated jaws* the last seven years. Moreover 14 or more years ago I recognised this want, and even with my own hands and a file made "fine serrations" on the jaws of forceps for dog's teeth.—Yours truly,

Henry Gray, M.R.C.V.S.

Kensington, 11th May.

CANINE TOOTH FORCEPS.

Sir,

We notice in this week's journal, a letter from Mr. Henry N. Carter, in which he states that he can conclusively prove that he has not appropriated Mr. Gray's idea, as his instruments were ordered on the 4th of January. Mr. Gray ordered these special tooth forceps of us and to be made in accordance with his instructions, on August the 20th, 1896, and these forceps have been submitted to many leading members of the profession and tried in every way before publishing the report, therefore it will at once be seen that Mr. Carter's idea has been anticipated, and the invention fairly claimed by Mr. Gray.

We shall be glad if you will be good enough to insert this in your next edition.—Your most obedient servants,

Arnold & Sons.

London, 10th May.

Communications, Books, and Papers received:—Messrs. W. Brown, A. M. Bruce. Jnr., G. A. Banham, F. Hobday, H. D. Chorlton, J. D. Pottie, T. V. Pettifer, R. C. Trigger, J. Blakeway, W. H. Bocock, C. W. Harris, "A Young Graduate.

Journal of Comp. Med. and Vety. Archives (Philadelphia), *American Veterinary Review*, *The Civil and Military Gazette* (Lahore), *The Glasgow Herald*, *The Beverley Guardian*.

We shall be obliged by early intelligence of all matters worth bringing under the notice of the profession, and thankful to any friends who may send us cuttings from local papers, containing facts of interest.